

Attachment A

Claims

1. An isolated synthetic construct which is a peptide display carrier package (PDCP), said construct comprising a complex of a recombinant single-stranded polynucleotide and a chimeric protein, wherein
 - i) the chimeric protein has
 - a) a nucleotide binding portion which comprises a binding domain of an estrogen receptor; and
 - b) a target peptide portion displayed externally on the package,
 - ii) said recombinant single-stranded polynucleotide comprises
 - a) a chimeric protein-encoding portion which encodes the chimeric protein of the complex; and
 - b) a nucleotide sequence motif which is specifically bound by said nucleotide binding portion of the chimeric protein,and wherein the nucleotide binding portion of the chimeric protein is bound to the nucleotide sequence motif of the recombinant single-stranded polynucleotide, and wherein the chimeric protein-encoding portion of the recombinant single-stranded polynucleotide is not bound by the nucleotide binding portion of the chimeric protein, and wherein the chimeric protein-encoding portion of the recombinant polynucleotide is protected from degradation by a binding moiety which is a viral protein and which is bound non-specifically to the single-stranded polynucleotide irrespective of nucleotide sequence, and wherein said construct is produced in a host cell transformed with said recombinant single-stranded polynucleotide and extruded therefrom without lysis of the host cell.
2. (Cancelled).
3. A construct as claimed in Claim 1, wherein the binding moiety is a viral coat protein.
4. A construct as claimed in Claim 1, wherein said target peptide portion is displayed externally on the package.

5. A construct as claimed in Claim 1 wherein said recombinant single-stranded polynucleotide includes a linker sequence between the nucleotide sequence encoding the nucleotide binding portion and the nucleotide sequence encoding the target peptide portion.
6. A construct as claimed in Claim 1 wherein said recombinant single-stranded polynucleotide has two or more nucleotide sequence motifs wherein each of the nucleotide sequence motifs is bound by the nucleotide binding portion of the chimeric protein.
7. A construct as claimed in Claim 1 wherein said nucleotide-binding portion is a DNA binding domain of an estrogen receptor.
8. (Cancelled).
9. A construct as claimed in Claim 1 wherein said target peptide portion is located at the N and/or C terminal of the chimeric protein.
10. (Cancelled).
11. (Cancelled).
12. (Cancelled).
13. (Cancelled).
14. (Cancelled).
15. (Cancelled).

16. (Cancelled).

17. (Cancelled).

18. (Cancelled).

19. (Cancelled).

20. (Cancelled).

21. (Cancelled).

22. (Cancelled).

23. (Cancelled).

24. An isolated synthetic construct for use as peptide display carrier package (PDCP), said construct comprising a recombinant polynucleotide-chimeric protein complex wherein the chimeric protein has a nucleotide binding portion which comprises a binding domain of an estrogen receptor and a target peptide portion, wherein said recombinant polynucleotide is a single-stranded polynucleotide and comprises a chimeric protein-encoding portion nucleotide sequence motif which is specifically bound by said nucleotide binding portion, and wherein the chimeric protein-encoding portion of the recombinant single-stranded polynucleotide not bound by the chimeric protein nucleotide binding portion is protected from degradation by a binding moiety which is a viral protein and which is bound to the recombinant single-stranded polynucleotide irrespective of the nucleotide sequence, wherein said binding moiety is a viral coat protein, wherein said target peptide portion is displayed externally on the package, wherein said recombinant single-stranded polynucleotide includes a linker sequence between the nucleotide sequence encoding the nucleotide binding portion and the nucleotide sequence encoding the target peptide portion, wherein said recombinant single-stranded polynucleotide has

two or more nucleotide sequence motifs at least one is bound by the nucleotide binding portion of the chimeric protein, wherein said nucleotide binding portion is a DNA binding domain of an estrogen receptor.

25. An isolated synthetic construct for use as peptide display carrier package (PDCP), said construct comprising a recombinant single-stranded polynucleotide-chimeric protein complex wherein the chimeric protein has a nucleotide binding portion which comprises a binding domain of an estrogen receptor and a target peptide portion displaying externally on the package, wherein said recombinant single-stranded polynucleotide comprises a chimeric protein-encoding portion and a nucleotide sequence motif which is specifically bound by said nucleotide binding portion, and wherein the chimeric protein-encoding portion of the recombinant single-stranded polynucleotide not bound by the chimeric protein nucleotide binding portion is protected from degradation by a binding moiety which is a viral protein and which is bound to the polynucleotide irrespective of the nucleotide sequence, wherein said recombinant single-stranded polynucleotide is bound to said chimeric protein, wherein said target peptide portion is located at the N and/or C terminal of the chimeric protein and said construct is produced in a host cell transformed with said recombinant single-stranded polynucleotide and extruded therefrom without lysis of the host cell.
26. A construct as claimed in Claim 1 wherein the binding moiety is a bacteriophage coat protein.